

Werk Order ID 77878

77878

Page 1

December-22-11 10:08:58 AM

Item ID: D350-689-015

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Seat Modification

Start Date: 22/12/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 05/01/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: M.C.J Date: 11/12/22 Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3033	Rev A1

100 DOCUMENT CONTROL 0.00

100

DC

Memo

0.00

Document Control

Photocopy bluefile per DSI 9222 and create labels per PPP D350-689-015
CHG001

Sidday

CK for MJS 12/01/03

110 Small Fab 0.00

110

Small Fab

Small Fab

Memo

0.00

Small Fab

Cut (1) blank 18.00" as per Dwg D3033 from D3033-144 extrusion. Debur
blank and identify as D3033-1.

120 QC5- Inspect part completeness to step on W/O 0.00

120

QC

Memo

0.00

Quality Control

Sul 12/22

11/12/22 (1)

(x)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 77878

December-22-11 10:08:58 AM

77878

Page 2

Item ID: D350-689-015

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Seat Modification

Stop ***NS2***

Start Date: 22/12/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 05/01/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

Chemical Conversion Coat per QSI005 4.1

0.00

130

HandFinish

Memo

0.00

Hand Finishing

WJ/A8 11-12-23

①

140

QC3- Inspect Part Finish

0.00

140

QC

Memo

0.00

Quality Control

1x of all materials

150

Pick Kit

0.00

150

Packaging

Memo

0.00

Packaging

SP 12-01-06

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

December-22-11 10:09:03 AM

Page 1

Work Order ID: 77878

77878

Parent Item: D350-689-015

D350-689-015

Parent Item Name: Seat Modification

Start Date: 22/12/2011

Required Date: 05/01/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A04.03.25New IssueKJ/RF

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

MS27039-1-10

Purchased

No

120

Each

41.0000

1

1

MS27039-1-10

Screw

**

SP

Location

Loc Qty

Loc Code

ST291

41

119307

3

119531

38

AN960JD10L

NAS1149D0332J

Purchased

No

160

Each

0.0000

3

3

*AN960.ID10I *

Washer

**

118384 SP

AN960JD516

NAS1149D0563J

Purchased

No

160

Each

0.0000

4

4

AN960.ID516

Washer

**

118206 SP

D3029-1

Manufactured

No

160

Each

12.0000

2

2

D3029-1

Spring

**

SP

Location

Loc Qty

Loc Code

GA

12

68607

12

D3030-1

Manufactured

No

160

Each

12.0000

2

2

D3030-1

Lock

**

SP 12-01-03

Location

Loc Qty

Loc Code

ST031

12

68608

2

73516

10

2x

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

December-22-11 10:09:03 AM

Page 2

Work Order ID: 77878

77878

Parent Item: D350-689-015

D350-689-015

Parent Item Name: Seat Modification

Start Date: 22/12/2011

Required Date: 05/01/2012

Start Qty: 1.00

Required Qty: 1.00

D3033-144 Manufactured No

D3033-144

Seat Track

160 f 47.3653 1.5

** *

1.5
B77878 sp

Location Loc Qty Loc Code

ST489A 47.36526311
30209 0.5
58045 5.19684211
68524 5.668421
77193 36

D3059-1 Manufactured No

D3059-1

Stud

160 Each 18.0000 4 4

**

sp

Location Loc Qty Loc Code

ST032 18
46491 18

D3060-1 Manufactured No

D3060-1

Bushing

160 Each 28.0000 4 4

**

AK

sp

Location Loc Qty Loc Code

ST032 28
24725 28

D3061-1 Manufactured No

D3061-1

Radius Block

160 Each 17.0000 4 4

**

4X

sp 12-01-03

Location Loc Qty Loc Code

ST032 17
22349 17

4X

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

December-22-11 10:09:03 AM

Page 3

Work Order ID: 77878

77878

Parent Item: D350-689-015

D350-689-015

Parent Item Name: Seat Modification

Start Date: 22/12/2011

Required Date: 05/01/2012

Start Qty: 1.00

Required Qty: 1.00

MS20426AD3-6

Purchased

No

160

Each

2,889.000

8

8

MS20426AD3-6

Rivet

**

SP - Ph →

Location

Loc Qty

Loc Code

ST316

2889

105055

115

116289

2774

8x

MS21042L5

Purchased

No

160

Each

2,112.000

4

4

MS21042L5

Nut

**

SP -

Location

Loc Qty

Loc Code

ST300

2112

116105

5

116548

43

117611

50

118179

496

118910

18

119109

1500

4x

MS21059L3

Purchased

No

160

Each

143.0000

4

4

MS21059L3

Nut Plate

**

SP -

Location

Loc Qty

Loc Code

ST301

143

118614

43

119546

100

4x

MS24693-S273

Purchased

No

160

Each

820.0000

1

1

MS24693-S273

Screw

**

SP 12-01-03

Location

Loc Qty

Loc Code

ST288

820

100151

720

117291

100

1

December-22-11 10:09:03 AM

Shop Packet Print

Page 3

Dart Aerospace Ltd

W/O: 11878		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: D350-689-015 PAR #: Fault Category: Production Eng NCR: Yes No DQA: Date: 12/04/04
 Resolution: Rework Disposition: Rework QA: N/C Closed: Date: 12/04/02

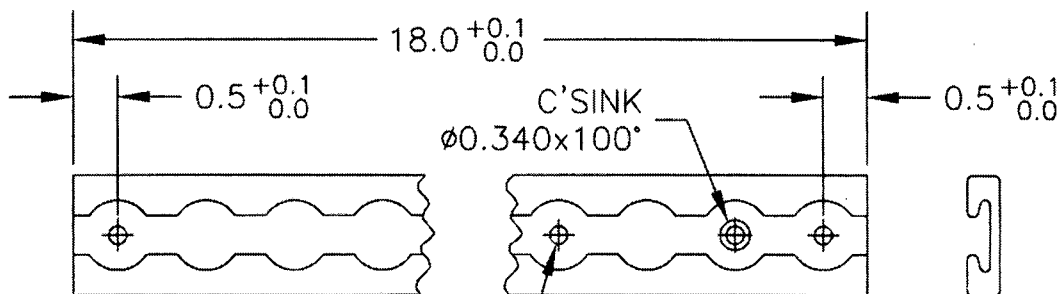
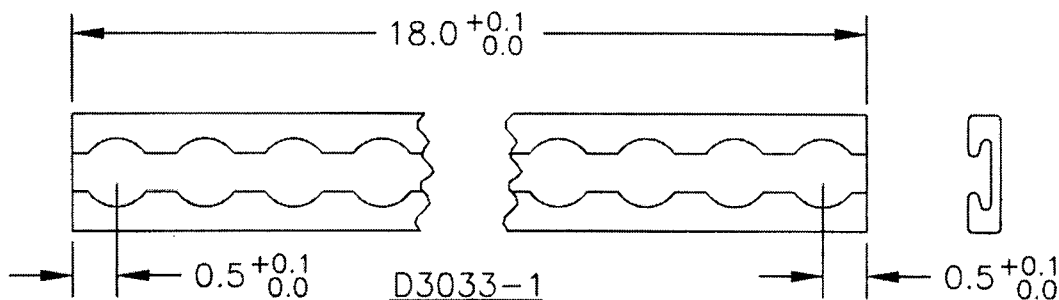
NCR: 11-1097		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/01/04	#100	Parts that do not belong in kit. not on IZn. 2C LQA MS204264D3-6	S OS7042 12/01/04	Remove from Parts list + Bom. Add w/ all updates Bom. Per Ref Ref	M 12.01.04	CK 12/01/03	S OS7042 12/01/04	S 12/01/04

NOTE: Date & initial all entries



DESIGN	UP	DRAWN BY	UP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	A	APPROVED	A	DRAWING NO.	REV. A
				D3033	SHEET 1 OF 1
DATE	01.05.18			TITLE	SCALE
				SEAT TRACK	1:2
A	01.05.18			NEW ISSUE	
A1	03.08.25			NOTE 1 MODIFIED	

SPECIFICATION CONTROL DRAWING



Ø0.203
(TYP 4 PLACES)

CHAMFER EDGES 0.03/0.06
AT 45° OR EQUIV. RADIUS
(BOTH ENDS)

D3033-3
(CAN MAKE FROM D3033-1)

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 33878 M.C.J

11/12/22

D3033-1 & D3033-3

1) MAKE FROM: ANCRA, P/N 40456-11-144
OR BROWNLIN, P/N 20276-144-0-0 } D3033-144 A1

2) DESCRIPTION: MEDIUM DUTY SEAT TRACK

3) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1

4) ALL DIMENSIONS ARE IN INCHES

5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

RELEASED
01.05.30

Copyright © 2001 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

4. WEIGHT AND BALANCE

The following weight and balance information is for the Dart Dual High Back Seat Installation. The weight and balance of the parts that are removed from the aircraft to perform this installation are the responsibility of the installer.

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D350-689-011 Dual High Back Seat Installation, Fwd Position	27.6 lb 12.5 kg	-18.2 in -0.46 m	-502 in-lb -5.8 m-k-g	60.7 in 1.54 m	1675 in-lb 19.3 m-k-g
D350-689-013 Floor Provisions Kit, Fwd Position	2.0 lb 0.9 kg	-18.2 in -0.46 m	-36 in-lb -0.4 m-k-g	60.7 in 1.54 m	121 in-lb 1.4 m-k-g
D350-689-011 Dual High Back Seat Installation, Aft Position	28.1 lb 12.7 kg	-18.2 in -0.46 m	-511 in-lb -5.8 m-k-g	63.7 in 1.62 m	1790 in-lb 20.57 m-k-g
D350-689-013 Floor Provisions Kit, Aft Position	3.1 lb 1.4 kg	-18.2 in -0.46 m	-56 in-lb -0.6 m-k-g	62.2 in 1.58 m	193 in-lb 2.2 m-k-g
D350-689-015 Seat Modification Kit	1.0 lb 0.5 kg	-17.2 in -0.44 m	-17 in-lb -0.22 m-k-g	60.7 1.54 m	61 in-lb 0.77 m-k-g
D350-689-017 Shoulder Harness, Fwd Position	4.4 lb 2.00 kg	-18.2 in -0.46 m	-80.1 in-lb -0.92 m-k-g	60.7 in 1.54 m	267 in-lb 3.08 m-k-g
D350-689-017 Shoulder Harness, Aft Position	4.4 lb 2.00 kg	-18.2 in -0.46 m	-80.1 in-lb -0.92 m-k-g	64.7 in 1.64 m	285 in-lb 3.28 m-k-g
D350-689-019 Control Guard, Fwd Position	0.5 lb 0.23 kg	-9.0 in -0.23 m	-4.5 in-lb -0.05 m-k-g	60.7 in 1.54 m	30 in-lb 0.35 m-k-g
D350-689-019 Control Guard, Aft Position	0.5 lb 0.23 kg	-9.0 in -0.23 m	-4.5 in-lb -0.05 m-k-g	64.7 in 1.64 m	32 in-lb 0.38 m-k-g
D350-689-021 Dual High Seat Back Installation, LH Fwd Position	29.2 lb 13.2 kg	-18.2 in -0.46 m	-531 in-lb -6.1 m-k-g	60.7 in 1.54 m	1772 in-lb 20.3 m-k-g
D350-689-021 Dual High Seat Back Installation, LH Aft Position	29.2 lb 13.2 kg	-18.2 in -0.46 m	-531 in-lb -6.1 m-k-g	64.7 in 1.64 m	1889 in-lb 21.6 m-k-g
D350-689-023 Energy Attenuating Floor Provisions Kit	2.5 lb 1.1 kg	-18.2 in -0.46 m	-46 in-lb -0.5 m-k-g	62.2 in 1.58 m	156 in-lb 1.7 m-k-g

5. PARTS LIST

Qty -011	Qty -013	Qty -015	Qty -017	Qty -019	Qty -021	Qty -023	Qty -041	Qty -043	Part Number	Description
X									D350-689-011	DUAL HIGH BACK SEAT INSTALLATION, LH
1	X								D350-689-013	FLOOR PROVISIONS KIT
		X							D350-689-015	SEAT MODIFICATION KIT
			X						D350-689-017	SHOULDER HARNESS KIT
				X					D350-689-019	CONTROL GUARD KIT
					X				D350-689-021	DUAL HIGH BACK SEAT INSTALLATION, LH
					1	X			D350-689-023	ENERGY ATTENUATING FLOOR PROVISIONS KIT
1							X		D350-689-041	DUAL HIGH BACK SEAT ASSEMBLY
					1			X	D350-689-043	DUAL HIGH BACK SEAT ASSEMBLY
							2	2	D3016-041	SEAT FRAME ASSEMBLY
							1	1	D3017-041	BACK FRAME ASSEMBLY
1					1				D3018-1	SEAT CUSHION
1					1				D3019-1	BACK CUSHION
							1	1	D3021-041	TUBE ASSEMBLY
							1	1	D3022-1	SEAT PAN
							1	1	D3023-1	BACK PANEL
							3	3	D3024-1	SPACER
	1								D3025-1	BEAM

• COPYRIGHT © 2011 BY DART AEROSPACE LTD •
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

Revision: **B**

Date: 11.07.22

REFERENCE ONLY

DART AEROSPACE LTD.

IIN-D350-689

Page 25 of 25

Qty -011	Qty -013	Qty -015	Qty -017	Qty -019	Qty -021	Qty -023	Qty -041	Qty -043	Part Number	Description
	1					1			D3026-1	CHANNEL
	1								D3027-1	CLIP
	1								D3027-3	CLIP
	1								D3027-5	CLIP
	4					4			D3027-7	CLIP
							4		D3028-1	STUD
		2					2		D3029-1	SPRING
		2					2		D3030-1	LOCK
							2	2	D3031-1	LOOP
	1								D3032-1	SPACER
	2	1							D3033-1	SEAT TRACK
		4							D3059-1	STUD
		4							D3060-1	BUSHING
		4							D3061-1	RADIUS BLOCK
				1					D3084-3	STRUT
	1								D3234-1	DOUBLER
	1					1			D3234-3	DOUBLER
	2								D3234-5	SPACER
								2	D3808-041	SEAT RAIL ASSEMBLY
								4	D3809-1	SLIDING BLOCK
						1			D3811-041	SEAT TRACK ASSEMBLY
			2						D4071-041	SHOULDER HARDNESS ASSY
							3	3	AN3-12A	BOLT
				1					AN4-12A	BOLT
				1					AN4-20A	BOLT
			2						AN5-4A	BOLT
							40	40	MS20600AD4W2	RIVET
							6	6	MS20600AD4W3	RIVET
						9	17	17	MS21042L3	NUT (OR MS21042-3)
				2			6	6	MS21042L4	NUT (OR MS21042-4)
		4	2						MS21042L5	NUT (OR MS21042-5)
12	4								MS21059L3	NUTPLATE
							4	4	MS24693-S272	SCREW
2	1								MS24693-S273	SCREW
							8		MS24694-S3	SCREW
						9			MS24694-S50	SCREW
							4		MS24694-S148	SCREW
6	3								MS27039-1-10	SCREW
							4	4	MS27039-1-17	SCREW
							6	6	MS27039-1-19	SCREW
							6	6	MS27039-4-21	SCREW
6	3						17	17	NAS1149D0332J	WASHER (OR AN960JD10L)
						9			NAS1149D0363J	WASHER (OR AN960JD10)
				8					NAS1149D0416J	WASHER (OR AN960JD416L)
							6	6	NAS1149D0432J	WASHER (OR AN960JD416)
			4						NAS1149D0516J	WASHER (OR AN960JD516L)
	4								NAS1149D0563J	WASHER (OR AN960JD516)
				2					NAS43DD4-46N	SPACER

• COPYRIGHT © 2011 BY DART AEROSPACE LTD •
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

Revision: B

Date: 11.07.22

at Modification

Selected BOM Production - standard ☒ Display only current

BOM Type Controls

BOM Type Production

Description standard

Route Type Production - standard

Last Modified By David Duval Comments

IPP Rev:A 04.03.25 New Issue KJ/RF
 IPP REV:B 12.01.05 REMOVE MS20426AD3-6 DD VERF:EC

Grid Options

Status	Item ID	Rev	Name	Start Date	Quantity Per	UOM	Scrap %	Route Se...	Sort	Comments	Date Last Mod
	D3033-144		Seat Track	12/5/2009	1.5000	f	0 %	110	1		1/5/2012 2:18 PM
	D3060-1		Bushing	12/5/2009	4.0000	Each	0 %	160	2		1/5/2012 2:18 PM
	D3059-1		Stud	12/5/2009	4.0000	Each	0 %	160	3		1/5/2012 2:18 PM
	D3030-1		Lock	12/5/2009	2.0000	Each	0 %	160	4		1/5/2012 2:18 PM
	AN960JD516		Washer	1/1/2008	4.0000	Each	0 %	160	5		1/5/2012 2:18 PM
	D3029-1		Spring	12/5/2009	2.0000	Each	0 %	160	6		1/5/2012 2:18 PM
	D3061-1		Radius Block	12/5/2009	4.0000	Each	0 %	160	7		1/5/2012 2:18 PM
	MS21059L3		Nut Plate	1/1/2008	4.0000	Each	0 %	160	8		1/5/2012 2:18 PM
	MS27039-1-10		Screw	1/1/2008	1.0000	Each	0 %	160	9		1/5/2012 2:18 PM
	MS2104ZL5		Nut	1/1/2008	4.0000	Each	0 %	160	10		1/5/2012 2:18 PM
	AN960JD10L		Washer	1/1/2008	3.0000	Each	0 %	160	11		1/5/2012 2:18 PM
	MS24693-S273		Screw	1/1/2008	1.0000	Each	0 %	160	12		1/5/2012 2:18 PM
*											

Seal Modification

Alternate

Production - standard



Routing Type

Production



Description

standard

Default Rework Routing



Last Modified By

DUVA02 - Duval, David - 1/5/2012 2:13 PM

New

Copy

Delete

Copy Routing From Item

Grid Options



Op Seq	Work Center	Standard Process	Work Center Name	Std. Process Description	Memo	Overlap %	Last Modified By
100	DC		Document Control		A	0.01 %	DUVA02
110	Small Fab		Small Fab		A	0.01 %	DUVA02
120	QC	QC5	Quality Control	QC5- Inspect part completeness to step on W/O	a	0.01 %	DUVA02
130	HandFinish	HandFinish1	Hand Finishing	Chemical Conversion Coat per QSI005 4.1	a	0.01 %	DUVA02
140	QC	QC3	Quality Control	QC3- Inspect Part Finish	a	0.01 %	DUVA02
150	Packaging	Packaging1	Packaging	Pick Kit	a	0.01 %	DUVA02
160	QC	QC4	Quality Control	QC4- 100% Inspect kits for completeness	a	0.01 %	DUVA02
170	Packaging		Packaging		A	0.01 %	DUVA02
180	QC	QC21	Quality Control	QC21- Final Inspection - Work Order Release	a	0.01 %	DUVA02
*					a		